

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
6 October 2005 (06.10.2005)

PCT

(10) International Publication Number  
**WO 2005/092796 A2**

(51) International Patent Classification<sup>7</sup>: **C01G 23/00**

(74) Agent: **OHIE, Kunihisa**; Ohie Patent Office,  
Selva-Ningyosho 6F, 14-6, Nihonbashi-Ningyocho,  
2-chome, Chuo-Ku, Tokyo 103-0013 (JP).

(21) International Application Number:  
PCT/JP2005/006219

(22) International Filing Date: 24 March 2005 (24.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2004-089328 25 March 2004 (25.03.2004) JP  
60/557,420 30 March 2004 (30.03.2004) US

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *without international search report and to be republished upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(71) Applicant (*for all designated States except US*): **SHOWA DENKO K.K.** [JP/JP]; 13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo 105-8518 (JP).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **KUROZUMI, Tadatoshi** [JP/JP]; c/o Corporate R & D Center, Showa Denko K.K., 1-1, Ohnodai 1-chome, Midori-ku, Chiba-shi, Chiba 267-0056 (JP). **SHIRAKAWA, Akihiko** [JP/JP]; c/o Corporate R & D Center, Showa Denko K.K., 1-1, Ohnodai 1-chome, Midori-ku, Chiba-shi, Chiba 267-0056 (JP). **TANAKA, Jun** [JP/JP]; c/o Showa Denko K.K., 13-9, Shiba Daimon, 1-chome, Minato-ku, Tokyo 105-8518 (JP).

(54) Title: TITANIUM-CONTAINING PEROVSKITE COMPOUND AND PRODUCTION METHOD THEREOF

(57) Abstract: The present invention relates to a method for producing a titanium-containing perovskite compound, characterized in that the method comprises a step of reacting titanium oxide produced through a vapor-phase method with at least one element selected from a group of alkaline earth metal compound and Pb compound in an alkaline solution; a perovskite compound obtained by the method; and electronic materials and the like using the compound. The titanium containing perovskite compound obtained by the method in the present invention has a small particle diameter and few impurities, is excellent in electric characteristics, and enables to make the size of electric devices smaller since the compound can be shaped in a thin film product.



WO 2005/092796 A2